

Интернет-журнал «Мир науки» ISSN 2309-4265 <http://mir-nauki.com/>

2017, Том 5, номер 1 (январь - февраль) <http://mir-nauki.com/vol5-1.html>

URL статьи: <http://mir-nauki.com/PDF/11PDangMN117.pdf>

Статья опубликована 18.03.2017

Ссылка для цитирования этой статьи:

Сандалова Н.Н., Кашапова Л.М. Эффективность использования эвристических методов познания в исследовательской деятельности младших школьников // Интернет-журнал «Мир науки» 2017, Том 5, номер 1 <http://mir-nauki.com/PDF/11PDangMN117.pdf> (доступ свободный). Загл. с экрана. Яз. рус., англ.

For citation:

Sandalova N.N., Kashapova L.M. [Efficiency of use of heuristic methods of knowledge of research activities of younger school students] On-line Journal «Mir nauki», 2017, Vol. 5, no. 1. Available at: <http://mir-nauki.com/PDF/11PDangMN117.pdf> (In Russ.)

Sandalova Natalya Nikolayevna

Bashkir State pedagogical university in the name of M. Akmulla, Russia, Ufa
E-mail: sandalova-natalya@yandex.ru

Kashapova Lyalya Muhametdinovna

Bashkir State pedagogical university in the name of M. Akmulla, Russia, Ufa
E-mail: lya220852@yandex.ru

Efficiency of use of heuristic methods of knowledge of research activities of younger school students

Abstract. Implementation Federal state educational orientes the standard of the primary general education to receipt of qualitatively new educational results. It demands from the teacher use of modern methods, methodical acceptances and methods of the organization of activities of younger school students. Research activities with a use of heuristic methods of knowledge allow to create more effectively at the new knowledge studying skills of independent getting, collection of necessary information, ability to formulate hypotheses, to organize researches, to draw conclusions and to build conclusions. In article experience of use of heuristic methods of knowledge of research activity of younger school students on the basis of A.V. Hutorsky's classification to which methods belong is opened: organizational and activity, cognitive and creative. The author has presented examples of the performed research tasks younger school students at whose realization necessary components of research abilities, such as organizational, search, information, presentation and estimated are formed. As the author of article notes, application of heuristic methods of knowledge of research activity of younger school students, trains them for the organization of independent researches, for manifestation of the research position, use of the created research abilities, as in educational activity, at implementation of educational projects, and in real life.

Keywords: younger school student; researcher; research work; heuristic method; cognition; research skills

In the context of the socio-economic changes the public demand is updated in the formation of personalities intellectually developed, talented and able to put forward the ideas of a progressive change of reality, actively influencing the national development and improving its competitiveness. [1]

With the introduction of the Federal State Educational Standards of primary general education there is a revision of the educative process, at which the trainee is a subject of the educative process,

who puts themes without assistance and resolves contradictions dialectically, rather than an object, i.e. there are carried out his preparation for the real life, readiness to take up an active position, successfully resolve the life's tasks, be able to cooperate and work in a group and be prepared for rapid retraining in response for updating of knowledge and labor market requirements [5].

Involving the trainees in activity that is characterized by motivation, understanding of personal meaning and thematic orientation, we form their internal prerequisites to develop the investigative attitude to the world, which is a mechanism for performance of big and small studies by the youngest schoolchildren, allowing them not only to learn a new one about the outside world, but also to get the versatile methods of obtaining knowledge - the research skills.

Formation of the research skills with the youngest schoolchildren is possible under the conditions of organized activities at class-and-lesson time and none-school hours. In this case the complex approach makes it possible to carry out the process of research skills formation more effectively. However it is important to define the methods of obtaining knowledge used in the research activities of the trainees of initial school. In our practice of the research activity organization for the youngest schoolchildren at class-and-lesson time and none-school hours on the basis of municipal budget general education institution (MBOU) lyceum № 21 in Ufa the heuristics methods of obtaining knowledge were used from first to fourth grades resulting in a performance of this process more efficiently.

The heuristic (or partial- search) approach is a method for organization of search and creative activity based on the theory of element-by-element acquisition of knowledge and ways of activity with the use of following skills: analyze its condition in ratio to the question raised, convert the main problems to a number of private, main one-subordinate problems, design a plan and stages of solution, formulate a hypothesis, synthesize the different directions of search and check on a solution, etc. [3].

To select the heuristic methods of teaching in the context of research, we rested upon the A.V. Khutorskoy's classification [7]:

- 1) organizational-activity methods: method of the pupils goal-setting and planning, methods of mutual learning, methods of self-evaluation and reflection, methods of self-organization of learning, etc.;
- 2) cognitive methods: empathy method, method of semantic vision related to the first one, method of imaginative vision and symbolic vision, method of heuristic questions (Who? What? Where? Why? What? How? When?), comparison method, method of distinction between facts and not-facts (look for the facts, then "distinguish" them from not-facts), method of heuristic observation, method of heuristic research, method of concepts design, method of rule construction, hypothesize method, prediction method, error method, method of theory design;
- 3) creative methods: devising method, "If only..." method, method of figurative picture, extravagance method, "brainstorming" technique, inversion method (access method), etc. The creative teaching methods are focused on the creation of personal educational product by children. Obtaining knowledge in this case is possible, but it takes place "along the way" of their own creative activities. Product receipt is rendered the main result.

Let's consider the use of this classification, which allowed not only to carry out an effective process of the research skills formation with the youngest schoolchildren in the class-and-lesson and none-school hours activities, but also to create the possibility of their use by trainees in the real life.

The organizational-activity methods allow to generate with the youngest schoolchildren the research skills such as: establish goal, plan own research and implement it in accordance with the

developed plan, control their research activities and carry out their assessment. For example, in the third grade the trainees received the following task: "Define the research theme for themselves." Together it was built a sequence of research activities with the help of questions: "Where do you begin to carry out your research task? What is the purpose of your research? Will you make a plan of your research? In what sequence will you carry out the research activities to obtain a specific research result? How will you carry out the research reflection?":

- What have I done, and what I got?
- Whether am I pleased with my result or not?
- Could I get a different result? And etc.

For example, Sasha Ivanov, a schoolboy of Class 3 of MBOU lyceum № 21, chose the theme of his study "History of my family". He presented the results of his research in front of class with the use of an interactive whiteboard, where he showed photos of their ancestry, their awards and some personal property that have been preserved in the heirloom. He showed a deep research interest in the study of family archive and inquiries of his parents and relatives about what education they received, by whom they worked and what taste of themselves they left. This research situation on the theme "History of my family" promoted to activation of the research interest and in parallel this research situation actualized and contributed the formation of personality universal educational actions. Reflecting an exploratory activity, the schoolboy said: "I am delighted that in the classroom we get the chance to choose a theme for research by themselves, and my chosen theme was interesting to me, needful and useful. At present I differently understand and look at myself and my family. I will try not to let down the family's honor, be honest and reliable person. I would love and take care of my parents and relatives. I am proud of my family".

In organizing research activity of the youngest school children it is also important to use the cognitive methods of obtaining knowledge which form such research skills as: hypothesize, work with the conceptual apparatus of research, observe, make inferences and conclusions. For example, in the second grade of school the children received a task on detection and development of skill to gain an insight into the object being investigated. For example, the teacher called the different things, and the second graders provided insight and the characteristics of the proposed things and objects: "That's how I roll!" (good, conscientious, hard-working, executive, beautiful, brave, polite, purposeful, responsible, healthy, clever, cheerful, painstaking, perceptive, exploratory, interested, inquisitive, - answers of the second graders of MBOU lyceum № 21 in Ufa). Table was proposed as the subject. "What features characterize this table?" (beautiful, large, new, high, plastic, writing desk, childlike, comfortable, - answers of the second graders of MBOU lyceum № 21 in Ufa) [5]:

Setting forward the assumptions, the trainees produce and develop in themselves: an ability to develop the images, put forward languages in the thesis form and show them when needed; an ability to express the author's vision, showing originality, flexibility and mental speed, leading to a logical reasoning on the theme of research. To this end, the second-graders received the following tasks: "Let's think together", where children build their own assumptions, using the keywords: "Maybe ..." "Suppose ...", "Let's ..." "Maybe ...", "What if ...".

Usage of the creative methods in research activities gives the youngest schoolchildren the opportunity to show their creative individuality and fantasy [4]. Children learn to express themselves, discover new opportunities for itself and creatively present the results of the research made. For example, in the first grade the schoolchildren took the following task: "Thinking and linking parts of different animals, try to construct using them a living creature with new unusual properties". As a first step the children are trying to fantasy and aloud present their animal (zakozavr, tigroid, medvolevis - answers of the first-graders of MBOU lyceum № 21 in Ufa). Then the task is complicated - the children sketch their animal using a different color palette and present their result of labor, accompanying their

animal with the main characteristics (Zakozavr is a dragon with big, fluffy ears of bunny and a small tail. Though he is a great, but very kind and cheerful. It helps everyone - answer of the first grader of MBOU lyceum № 21 in Ufa).

Usage of the heuristic methods of obtaining knowledge proposed by Khutorskoy A.V. in the research activity of the youngest schoolchildren has allowed them to unlock their creative abilities and acquire the important components of research skills: organizational, search, information, presentation and evaluation [6].

The observations show that this approach intensifies a personal principle of the youngest schoolchildren in the formation of research skills, attracts with them a keen interest in dialogue and motivate interest in obtaining knowledge, makes it possible to generate the problem, assign tasks and perform a looking for ways and means for solution of new, unexpected situations and be capable of replying challenges of the present and the future [9].

Thus, the use of modern educational technologies in the research activity of the youngest schoolchildren supposes the various in the methodical ratio variants to include the trainee in research work. It is assumed that having the opportunity to conduct their own training research, he will learn to do it himself. Experience shows that the problem of research abilities development of the youngest schoolchildren is solved more effective under conditions when using special practical studies to develop their search and research skills.

REFERENCES

1. Kashapova, L.M. Razvitie detskoy odarennosti obuchayushchikhsya v obrazovatel'noy sisteme «shkola - vuz» [Tekst] / L.M. Kashapova, A.T. Arslanova, T.V. Nibieva // Pedagogicheskiy zhurnal Bashkortostana. - 2014. - №1 (50). - S. 34-43.
2. Kashapova, L.M. Shkola: mezhdru proshlym i budushchim [Tekst] / L.M. Kashapova // Sbornik nauchno-metodicheskikh materialov iz opyta raboty. - Ufa: Izd-vo BGPU, 2013. - 40 s.
3. Lerner, I.Ya. Didakticheskie osnovy metodov obucheniya [Tekst] / I.Ya. Lerner. - M.: Pedagogika, 1981. - 186 s.
4. Savel'eva, E.A. Aktualizatsiya tvorcheskikh sposobnostey mladshikh shkol'nikov v sovместnoy deyatelnosti so studentami napravleniya «Nachal'noe obrazovanie» (kraevedcheskiy aspekt predmetnykh oblastey «Izobrazitel'noe iskusstvo» i «Tekhnologiya») [Tekst] / E.A. Savel'eva, E.V. Gurova, A.G. Yunusova, L.K. Fatkullina, N.S. Nesterova, L.A. Savel'eva // Mir nauki. - 2016. - T. 4. №3. S. 8-16.
5. Sandalova, N.N. Formirovanie issledovatel'skikh umeniy u mladshikh shkol'nikov [Tekst] / N.N. Sandalova // Nachal'naya shkola. - №6. - 2015. - S. 47-51.
6. Sandalova, N.N. Issledovatel'skaya deyatelnost' v nachal'nom obshchem obrazovanii: uchebno-metodicheskoe posobie [Tekst] / sost. N.N. Sandalova. - Ufa: Izd-vo BGPU, 2016. - 56 s.
7. Khutorskoy, A.V. Didakticheskaya evristika: Teoriya i tekhnologiya kreativnogo obucheniya [Tekst] / A.V. Khutorskoy. - M.: Izd-vo MGU, 2003. - 416 s.
8. Fatkullina, L.K. Formirovanie u mladshikh shkol'nikov umeniy modelirovaniya na urokakh «Okruzhayushchego mira» [Tekst] / L.K. Fatkullina, N.A. Veyt // Materialy IV Mezhdunarodnoy nauchnoy konferentsii «Pedagogika sovremennogo nachal'nogo obrazovaniya: sostoyanie, problemy i perspektivy razvitiya». - Ufa, 2016. - S. 239-244.
9. Yangirova, V.M. Teoriya i praktika formirovaniya u obuchayushchikhsya issledovatel'skikh umeniy v protsesse osvoeniya istoriko-obshchestvovedcheskikh znaniy [Tekst]: kollektivnaya monografiya v 3-kh tomakh / Yangirova V.M., Shamigulova O.A., Sandalova N.N. // Mezhdunarodnyy Rossiysko-Izrail'skiy nauchno-izdatel'skiy proekt «Zolotaya monograficheskaya seriya», glava «Fundamental'nye i prikladnye aspekty sovremennykh ekonomiko-pravovykh issledovaniy» (T. 2). - Izrail', Rishon le-Tsion: Izd-vo «MEDIAL», 2016. - S. 205-231.
10. Yangirova, V.M. Razvitie funktsional'noy gramotnosti na urokakh russkogo yazyka v nachal'noy shkole [Tekst] / V.M. Yangirova, G.Z. Imasheva // Materialy IV Mezhdunarodnoy nauchnoy konferentsii «Pedagogika sovremennogo nachal'nogo obrazovaniya: sostoyanie, problemy i perspektivy razvitiya». - Ufa, 2016. - S. 166-172.

УДК 74.202.43

Сандалова Наталья Николаевна¹

ФГБОУ ВО «Башкирский государственный педагогический университет им. М. Акмуллы», Россия, Уфа
Преподаватель кафедры «Теорий и методик начального образования»
E-mail: sandalova-natalya@yandex.ru
РИНЦ: http://elibrary.ru/author_items.asp?id=701177

Кашапова Ляля Мухаметдиновна

ФГБОУ ВО «Башкирский государственный педагогический университет им. М. Акмуллы», Россия, Уфа
Профессор кафедры «Педагогики»
Доктор педагогических наук
E-mail: lya220852@yandex.ru
РИНЦ: http://elibrary.ru/author_items.asp?id=340478

Эффективность использования эвристических методов познания в исследовательской деятельности младших школьников

Аннотация. Внедрение Федерального государственного образовательного стандарт начального общего образования ориентирует на получение качественно новых образовательных результатов. Это требует от учителя использование современных методов, методических приемов и способов организации деятельности младших школьников. Исследовательская деятельность с применением эвристических методов познания позволяет более эффективно сформировать у обучающихся навыки самостоятельного добывания новых знаний, сбора необходимой информации, умения выдвигать гипотезы, организовывать исследования, делать выводы и строить умозаключения. В статье раскрыт опыт использования эвристических методов познания в исследовательской деятельности младших школьников на основе классификации А.В. Хуторского, к которой относятся методы: организационно-деятельностные, когнитивные и креативные. Автором представлены примеры выполненных исследовательских заданий младшими школьниками, при реализации которых формируются необходимые компоненты исследовательских умений, такие как организационные, поисковые, информационные, презентационные и оценочные. Как отмечает автор статьи, применение эвристических методов познания в исследовательской деятельности младших школьников, готовит их к организации самостоятельных исследований, к проявлению своей исследовательской позиции, применению сформированных исследовательских умений, как в учебной деятельности, при реализации учебных проектов, так и в реальной жизни.

Ключевые слова: младший школьник; исследователь; исследовательская деятельность; эвристический метод; познание; исследовательские умения

¹ 450104, Республика Башкортостан, г. Уфа, ул. Российская 151, кв. 55

ЛИТЕРАТУРА

1. Кашапова, Л.М. Развитие детской одаренности обучающихся в образовательной системе «школа - вуз» [Текст] / Л.М. Кашапова, А.Т. Арсланова, Т.В. Нибиева // Педагогический журнал Башкортостана. - 2014. - №1 (50). - С. 34-43.
2. Кашапова, Л.М. Школа: между прошлым и будущим [Текст] / Л.М. Кашапова // Сборник научно-методических материалов из опыта работы. - Уфа: Изд-во БГПУ, 2013. - 40 с.
3. Лернер, И.Я. Дидактические основы методов обучения [Текст] / И.Я. Лернер. - М.: Педагогика, 1981. - 186 с.
4. Савельева, Е.А. Актуализация творческих способностей младших школьников в совместной деятельности со студентами направления «Начальное образование» (краеведческий аспект предметных областей «Изобразительное искусство» и «Технология») [Текст] / Е.А. Савельева, Е.В. Гурова, А.Г. Юнусова, Л.К. Фаткуллина, Н.С. Нестерова, Л.А. Савельева // Мир науки. - 2016. - Т. 4. №3. С. 8-16.
5. Сандалова, Н.Н. Формирование исследовательских умений у младших школьников [Текст] / Н.Н. Сандалова // Начальная школа. - №6. - 2015. - С. 47-51.
6. Сандалова, Н.Н. Исследовательская деятельность в начальном общем образовании: учебно-методическое пособие [Текст] / сост. Н.Н. Сандалова. - Уфа: Изд-во БГПУ, 2016. - 56 с.
7. Хуторской, А.В. Дидактическая эвристика: Теория и технология креативного обучения [Текст] / А.В. Хуторской. - М.: Изд-во МГУ, 2003. - 416 с.
8. Фаткуллина, Л.К. Формирование у младших школьников умений моделирования на уроках «Окружающего мира» [Текст] / Л.К. Фаткуллина, Н.А. Вейт // Материалы IV Международной научной конференции «Педагогика современного начального образования: состояние, проблемы и перспективы развития». - Уфа, 2016. - С. 239-244.
9. Янгирова, В.М. Теория и практика формирования у обучающихся исследовательских умений в процессе освоения историко-обществоведческих знаний [Текст]: коллективная монография в 3-х томах / Янгирова В.М., Шамигулова О.А., Сандалова Н.Н. // Международный Российско-Израильский научно-издательский проект «Золотая монографическая серия», глава «Фундаментальные и прикладные аспекты современных экономико-правовых исследований» (Т. 2). - Израиль, Ришон ле-Цион: Изд-во «MEDIAL», 2016. - С. 205-231.
10. Янгирова, В.М. Развитие функциональной грамотности на уроках русского языка в начальной школе [Текст] / В.М. Янгирова, Г.З. Имашева // Материалы IV Международной научной конференции «Педагогика современного начального образования: состояние, проблемы и перспективы развития». - Уфа, 2016. - С. 166-172.